

THE FARMER & GARDENER

PUBLISHED EVERY TUESDAY BY THE PROPRIETORS, E. P. ROBERTS AND SAMUEL SANDS—EDITED BY E. P. ROBERTS.

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BALTIMORE: TUESDAY, MAY 1, 1838.

We have received a few numbers of *"the Rural Library, a publication of standard works, (entire, compiled, abridged, and original,) on agriculture, gardening and domestic economy."* It is published by S. Fleet, N. Y.; is gotten up in good taste, and contains, as its title imports, besides original matter, interesting transcripts from the best standard works on husbandry; and as we believe it to be well calculated to further the good cause, —we most sincerely wish it success. We have copied a chapter from it to-day on that most interesting of all subjects,—the manuring of land,—and shall, as occasion may suit, continue to draw from its columns such matters as we may believe will be interesting and instructive to our readers.

DAHLIAS.

The lovers of these beautiful and popular flowers will bear in mind, that no time is to be lost in planting them out, and if they want luxuriant blossoms they must be liberal with their manure. Fermented manure is best; but if that is not attainable, a shovelful to each root, of a compost made of two parts stable manure, one part sand, and one part mould will answer. While growing they must be well and often watered; for they are as deep drinkers as heavy feeders.

WORK FOR MAY.

ON THE FARM.

It may be truly said that the month of April, just passed, has been the coldest and most inauspicious one for Agricultural purposes that have occurred for many years. In it, instead of those delightful showers—those alternations of sunshine and rain—that used to refresh the earth—we have had frost, snow and ice enough for a month of mid-winter. Under such circumstances, it follows as a matter of course, that much of the labor usually performed in April has

been transferred to the present month, and hence the necessity for the exercise of increased industry in pushing forward the operations of the farm.

Corn.—As this crop is, after all is said and done, the great stand-by of the farmer and planter, each and all of us should direct our attention, with honest and well directed zeal, to the best means of making it profitable, as there is no doubt that by generous manuring and proper culture, one acre may be made to yield as much as three indifferently manured and slovenly tended.

If your corn-ground is a clover-ley, and was manured and ploughed up last fall, all you have got to do is to thoroughly harrow it, and when your soil is reduced to a state of perfect pulverization, strike out your furrows, and plant your corn. And as soon as it comes up, prepare a compost of 4 parts of ashes and 1 of plaster of paris, and carefully put half a pint on each hill of corn. This will give an early impetus to the growth of the young plants, a thing of the very first importance. When the plants are about 4 inches high, run your harrow lengthwise of the furrows, so as to give a thorough lightening to the soil, and place it in the best possible condition to urge forward the growth of the corn. While this operation is being performed, careful persons should follow the harrows to set up the young plants as they are knocked down. The after culture may be prescribed in a few words—*keep the weeds down, and the earth well stirred and open.* And we would advise, by all means, to substitute the *Cultivator* for the *plough* as much as possible, and after the corn shall have sent its roots into the intervals between the furrows, not to cut them up by deep ploughing, as it is consonant with common sense that every laceration of them, tends to their injury, and is, as we believe, the true cause of the *firing*, which is so generally ascribed to ploughing in dry weather, or to ploughing late in the season. We are clearly of opinion that no stirring of the ground at any period of the growth of the corn, which is unattended with wounding of the roots will have any other than a beneficial effect, as keeping the soil open and free to the action of the atmosphere is the best possible means of attracting therefrom nourishment

for the growing plants, and we would have you bear in mind, that if you wish a good crop you must keep your field clean. In conclusion upon this point we would observe, that the sooner you get in your corn, the better chance it will have of escaping the frosts of autumn.

Potatoes.—Get in your potatoes as early as possible in this month, and while putting them in do not spare your manure. As soon as they begin to show themselves above ground run your harrow cross-wise the furrows, so as to lighten the ground, and give the tender plants a chance of coming up vigorously. When they are three or four inches high put your plough in, taking a furrow from the rows as you go one way, and return it as you come back the other; letting the hoers follow the plough, not for the purpose of making a high hill, but to better pulverize the earth, and to make a *hill* of equal proportions around the plants of moderate height and sufficiently flat to receive the benefits of the rains. After the first working with the plough and hoe, the *Cultivator* is the preferable implement, and two workings with it will be found enough to secure, in ordinary seasons, a good crop.

The potato sets should be cut a few days before they are planted, and will be benefitted by being rolled in plaster or ashes.

Peas and Beans.—Your field peas and beans should be got in speedily, and kept clean until laid by.

Pumpkins.—Whether you intend planting your pumpkins in the corn-field or in a patch by themselves, you should plant them early this month, and as the friend of your milch-cows and hogs let us advise you to plant freely.

Millet.—This best of all substitutes for hay or fodder, should be planted this month and the next.

Clover.—If you have not already sown your clover seed, you may still do so, but be careful to get it in as early as possible, as every week's delay at this season is disadvantageous, and will prove riskful. Sow plaster over your fields.

Fruit Trees.—Take in the proportion of 2 lb. of potash, and dissolve it in two gallons of water. When the potash is dissolved, take a painter's brush, and apply the solution to the trunks

of your fruit trees, avoiding the touching of the buds or leaves. It will destroy insect deposits, prove repulsive to the insects themselves, and exert a beneficial influence on the general health of the trees.

Pastures.—If you can do so conveniently, you will find it to your interest to keep your stock off your pastures until the grass shall have had a chance to start and get ahead.

Lucerne.—This excellent, though neglected grass, may now be sown on well pulverized ground.

Water Melons, Canteleupes, and Musk-melons, may all be got in now.

Spring Wheat.—If you have not yet sown your Spring Wheat, it may still be put in with the certainty of being ready for harvesting early in August.

Sweet Potatoes should be put in early.

Beets, Mangel Wurtzel, Parsnips and Carrots may all be put in this month, the earlier the better. But put in neither unless you manure well, and have come to the resolution of keeping them clean, in good growing condition. If you do them justice they will give you 1000 bushels to the acre, add 50 per cent. to the value of your dairy next winter, preserve your cattle and hogs well through the winter, and be a source of conscious pleasure to you whenever your stock may be exhibited to your neighbors, for who does not indulge in that feeling under such circumstances?

IN THE KITCHEN GARDEN.

Melons of all kinds, cucumbers, squashes, pumpkins, Irish and sweet potatoes; roasting-ear corn should all be put in this month as early as possible.

Cabbage. Sow your cabbage seed.

Radishes, lettuce, beans, peas, cauliflowers and indeed most of the various species of vegetables should be put in early this month.

Onions. Clean and thin out your early sown onions.

Beets, Carrots, and Parsnips should be put in as early as possible.

Peppers and Tomatoes should be sown early, and when fit transplanted.

Clay.—As the beneficial effects of clay on light and sandy soils is so generally understood and acknowledged, we are surprised that it is not more extensively used in ameliorating the condition of soils of this nature. A gentleman of this town informs that in many cases he considers clay altogether preferable to manure, from his own experience in the matter. Four or five years since, he had carried on a lot of small extent a considerable quantity of clay, which was spread over the surface to the depth of three or four inches.

This was left until dry, when it was rolled; the lot was then planted with potatoes, which yielded a great crop. The succeeding year the lot was ploughed, and seeded down with hemp; the crop that followed was the heaviest raised in this country this year. In the fall of the same year, the lot was again ploughed and seeded down with wheat, of which it produced an extraordinary crop. This wheat crop brought the highest premium in the commonwealth. The land has been liberally manured, and has since yielded great crops of hay. In this case there has been evidently a great improvement of the soil, and similar treatment of light soils would doubtless be followed by similar effects. If we were a farmer we think we should try it.—*Greenfield Gazette.*

The Wheat Crop, in the West.—The Wabash (Indiana) Courier of late date says:—We have recently conversed with several of our best farmers, and with other gentlemen residing at a distance, and all concur in saying that the wheat crop was never more promising in the Wabash valley. The fields are represented as being remarkably numerous, and their present appearance gives token of an overflowing abundance.

[From the Farmer's Cabinet.]

TREATMENT OF WOUNDS ON HORSES.

Having seen a communication, extracted from the Maine Farmer, requesting information in regard to the treatment of wounds on horses, and having had some experience of the value of the following remedy, I confidently recommend its use. It is a solution of saltpetre and blue stone. The saltpetre should be first dissolved in warm water, in such proportions as to be moderately strong to the taste, and bluestone added until the solution is slightly tinged. This, and nothing else, is to be used as a wash, two or three times a day. It purifies the wound, destroys proud flesh, produces granulations immediately, and heals the worst wounds in a surprisingly short time. I have had horses badly kicked and otherwise hurt, in mid-winter, and mid-summer; their cure was equally rapid, and afterwards no scar was visible. The wound requires no covering—flies will not approach it, and dressing it with a small mop of rags, tied to a stick is very little trouble. Wounds do not require to be sown up under this treatment; at least I never saw any advantage from it, as the stitches uniformly torn out. The skin will approximate as the wound heals.

PENN.

From the Genesee Farmer.

Sow Spring Wheat, if your Winter Wheat is injured by the Frost.

Mr. Tucker.—Last Spring I had a piece of late sown wheat, that looked fine when the snow went off; but our spring was unfavorable for such grain, dry, freezing and thawing, and almost destroyed it. I made my calculation to plough it up and sow it to oats; but being averse to ploughing up crops, I concluded to try an experiment, (to me it was an experiment.) I know not but others have tried it before; I sowed about two-thirds of the piece with spring wheat, half a bushel to the acre, then harrowed it lightly, and rolled it down smooth, the remainder of the field was

harrowed and rolled as the above, except one small piece, which was left unmolested. The result on that part sown with spring wheat, harrowed and rolled, was over 25 bushels to the acre; on that harrowed and rolled, about one-third as much: on the small land that was left without doing any thing to it, hardly worth harvesting; it was so thin that it blusted and shrunk. If there should be any of the readers of the Farmer with wheat situated as above described, let them try the experiment, and I will be accountable for the result. My experiment with a man and team one day, put \$100 in my pocket.

A. FORD.

Union District, Mich. March 11, 1848.

We have had an opportunity of seeing the Report of the State Geologist, for 1837, with which he has kindly furnished some of his friends in this county, and as that part of it which relates to Cecil county cannot be otherwise than valuable and interesting to many of our readers, we purpose giving it a publication in our next paper. The Geologist shews by his able report that he deserves the patronage of the State, and that he does not receive his salary without earning it. The concluding remarks of the report must have a beneficial effect in dispelling the prejudices which have existed abroad against the healthfulness of the tide-water districts of Maryland. In speaking of this part of our territory, he says:

"Its agricultural resources are inexhaustible; the average of human existence within it equal to that of any other parts of the State; its comforts and advantages superior to all, and its physical aspect as favorable as could be desired. * * * * * If advantage, then, be taken of these resources, I feel authorized to say, that this portion of our State, not long since reported as stricken with pestilence and poverty, will be looked upon as the garden spot of Maryland."

During the last winter our agriculturists in Sasfras Neck and Bohemia Manor hauled out great quantities of green sand and black marl, indicated by the Geologist when he traversed this county, and we doubt not the hints given in the report as to the quantity to be used to the acre, and the mode of using it, will be of incalculable service. The Geologist says:

"There can be no necessity for urging the intelligent farmers of Cecil to the fruition of these invaluable resources, by means of which, together with the other natural advantages of the county, it can be made one of the most flourishing in the State. Its peculiar position,—at the head of the bay,—intersected by water courses—traversed both by a canal and rail-road, and thus possessed of every facility for the transportation of its various productions—midway between two large cities, either of which, for social intercourse, can be reached in a very few hours—it presents itself under a very favorable aspect to those who are desirous of retiring upon farms, or of founding landed estates. There can be no doubt that the prices at which lands have recently been sold in Cecil are much below their intrinsic value; and without desiring to create or encourage an unwholesome spirit of speculation, by affixing a nominal value to them, that would be more injurious than beneficial to the prosperity of the county, they may be safely recommended to those

who are willing to invest their funds in this way; provided they be improved forthwith by means of those natural resources which they contain within themselves, or that are within their reach."

The Geologist does not report the existence of limestone in this county, but says there are indications that bands of it exist at the head of Principio Creek, and in the vicinity of the Rising Sun. We are pleased to learn that he intends returning the early part of this season to make systematic search for that invaluable rock.—*Cecil. pap.*

[From the Essex (N. H.) Register.]

THE FARMERS.

Among the manual occupations, the agricultural life is most favorable to intellectual cultivation. And this for two reasons: First, there are the long winter evenings, when the farmer having returned from the forest, whence he sleds his fuel for his fire, may sit at that fire and read—read and reflect, with none to molest, or make him afraid! And, in the second place, his occupation itself is so various, and requires so much planning, that it is a constant spur to his ingenuity. It is really an exertion of no small judgment to carry on a farm skillfully. He who can do it, must understand the seasons and the soil; he must understand when it is best to put in the seed as well as the sickle—in a word, he is the lord and governor of a little territory in which he may manifest the wisdom of his plans, and the rectitude of his laws. He must work with his mind as well as with his hands, and the ingenuity of the one will soon be seen, as well as the industry of the other.

There is no employment in which the regard to sagacity and penetration is more immediate. A great writer on political economy declares: "After what is called the fine arts and the liberal professions, there is no trade which requires so great a variety of knowledge and experience. The innumerable volumes which have been written upon it, in all languages, may satisfy us, that among the wisest and most learned nations, it has never been regarded as a matter very easily understood. And from all these volumes, we shall in vain attempt to collect the knowledge of its various complicated operations, which is commonly possessed even by the common farmer."

In another place, he says: "The man who works upon brass and iron, works with instruments, and upon materials, of which the temper is always the same, or very nearly the same. But the man who ploughs the ground with a team of horses or oxen, works with instruments of which the health, temper and strength, are very different upon different occasions. The condition of the materials which he works upon, too, is as variable as that of the instruments which he works with, and both require to be managed with much judgment and discretion." From this, he infers that no class of working men have so much to improve the mind, and to force them upon judgment, as those who till the ground.

To all this we must add, in our country, that the farmer, owning his soil, and most of his estate lying open to taxation, has a great motive to attend strictly to public affairs, to watch the fiscal concerns of the nation, and to see that its expenditures are not lavished upon useless objects. This acquaints him with public matters; it teaches him practically the elements of a republican go-

vernment. He must also see to the titles to his estate; he must be acquainted with the elements of law and justice. Thus his mind is brought into contact with some of the most important operations of social life.

Again: he sees the works of God on a great scale. He sees him inspiring the instinct of the bee; teaching the insect how to weave her web, or to build her cell; now rearing up the little flower, and now raising the oak to toss its branches in the upper sky; clothing the fields with grass, and the vallies with corn; sometimes sending his gentle showers, and sometimes rolling his thunders through the heavens.

He reads nature—not in books—but on her primitive page, in her original language. He is admitted behind her curtain, to be a spectator of her most important operations.

The farmer must have a darkened intellect and a sullen heart, who does not see the wisdom and adore the care and benevolence of an ever operating and all-protecting God—Yet such a man may find a shrine for worship in every grassy mound—a temple beneath every majestic tree.

MASSACHUSETTS AGRICULTURAL SOCIETY REPORTS.

To the Committee on Agricultural Products and Experiments, of Massachusetts Agricultural Society.

Gentlemen:—In entering a claim for the premium offered by the Trustees of the Massachusetts Agricultural Society, for the greatest quantity of Spring Wheat per acre, and in conformity to the rules of said society, I now state that the field on which my crop was grown the present season, was planted the year previous with corn and potatoes, and for that year was not manured heavy—say with about six cords of good manure ploughed in. As a reason for so doing, I will state that this field had obtained two premiums—one for potatoes, one for wheat. I need not add perhaps, that when stocked down to grass with that crop of wheat, the soil was well filled with manure. I therefore deemed it unnecessary, if not injurious, to add more than the above amount of manure in the present process, as I have known wheat land to be manured too highly, causing the straw to be heavy and the kernel light. The last week of last April after the land had been well and deep ploughed, the seed (2 1-2 bushels of the Smyrna or Black Sea Spring Wheat*) was sowed and harrowed in cross the furrows, the roller following; which finished the duty of the husbandman to this field, till harvest, which was completed the first week in August, the grain being cut when the kernel was to the feel like India rubber; two days sun cured it for housing. The crop was threshed in October by horse power, (the machine having been in use a number of years and the teeth much worn; I judged, over a bushel passed through unthreshed and went with the straw, of course not counted in the meas-

*This kind of wheat was imported from Smyrna about seven years since, the largest product on my land was fifty-five bushels and an item (for which a premium was awarded) and has generally done well.

ure) winnowed up clean and carefully measured. The amount was thirty-eight bushels and sixteen quarts of clean wheat.

Yours, respectfully,

PAYSON WILLIAMS.

Fitchburg Nov. 10, 1837.

[From the Buck-eye Plow-Boy.]

CULTIVATION OF ROOTS FOR CATTLE.

As this is the season for preparing the ground for roots, I shall again urge their cultivation upon the farmers, and shall occupy a large space upon the mode of culture. I have stated in a former number, that ten acres to grass and one to roots, would winter as many cattle as twenty acres of hay alone. This statement has been questioned by some, but I am fully satisfied, that that statement was not too high. It is generally conceded that a ton of hay and a ton of roots are equal to two tons of hay. Ten acres of grass will not usually produce more than 20 tons of hay, and cannot be made to produce more than thirty tons; while one acre of ruta бага, sugar beet, or mangel wurtzel, can be made to yield thirty, forty, and even fifty tons. On this subject the following communication from Mr. Pugh will be read with interest.

CINCINNATI, Jan. 5, 1838.

Richard Fry, Esq.

Dear Sir: Yours of the 29th November was received, but by press of business an answer has been delayed until now.

I did not commence the cultivation of the beet with the intention to manufacture sugar; but solely to test its qualities as feed for cattle and hogs. And I have not cultivated and used the beet for a sufficient length of time to have made, as yet, many experiments. In the spring of 1836, I planted them for the first time, and then sowed only one-third of an acre of the mangel wurtzel; which produced by estimation (after weighing an average cart load) eighteen and a half tons, equal to fifty-five and a half tons per acre, of beets with the tops cut off. This crop I fed out last winter, to those of my milch cows which were rearing calves; and I think a stranger could almost select from the herd those that were thus fed.

Being so much pleased with this small experiment, I enlarged my beet ground last season to three acres, sowing both the mangel wurtzel and the sugar beet, and have got in, for the present winter's feeding, a fine crop of both varieties, the product of each kind being about equal. The yield of this season is thought to be as great, if not greater, in proportion, than that of last.

My mode of culture is as follows: I plant on rich alluvial bottom land, which is broken up in the fall to the depth of 8 or 10 inches, in the spring the clods dissolve with the frost, and the ground is left mellow and in fine condition. At this season I manure well and plow deep, then smooth the surface and pulverize the clods by harrowing twice; then lay out my drill furrows two and a half feet apart, with a small shallow plow. I plant my seed by hand, putting in about twice as many as I wish to stand, and covering them with about two and a half inches of fine soil; the time for planting is the last week in April or the first in May. Six or eight days thereafter the young plants make their appearance, accompanied

with a host of weeds, ready to contend with them for the mastery, and this they will obtain unless the husbandman is diligent and industrious, as the beets at this stage of their growth are delicate and tender, and are subject to the depredations of different insects, which destroy many of them. At this time the hand hoe is to be used in the cultivation, as the plants are too easily injured to admit of the use of the plow. If they are now well attended to and kept clean they grow rapidly. After they have attained some size and strength they should be thinned so that they may stand at the distance of eight or ten inches apart. The places of missing plants may be filled by transplanting from those parts where there are too many; this should be done in moist weather. When they have attained sufficient size, the cultivator or plow may be used freely. Their growth at this stage is almost incredible, and all you have to do to secure an abundant crop is to keep down the weeds.

The mangel wurtzel matures earlier than the sugar-beet, and I think will yield as many if not more pounds per acre, and stands throughout the season sound and solid, while the sugar beet is more liable to become hollow and unsound. From my own experience, I would give the former the preference over the latter or any other species of roots for feeding stock.

What is the relative value of beets and corn I am unable at present to say; nor am I prepared to state the expense of cultivation per acre. But I do not hesitate to say that the introduction of the culture of roots generally, and of the beet more particularly, is a desideratum, and of the utmost importance to the agricultural interests of the state. It is particularly important to the small landholder, who can thus increase his means of feeding stock four or five fold more than he could by the production of grain; and at the same time by increasing the quantity of manure he adds constantly to the fertility of the soil, instead of exhausting it, as under the old "modus operandi" of farmers.

I let my beets stand out as late as I can, taking care to avoid the frost; and keep them during the winter in cellars under my cattle barns, constructed so that they can be mutilated in fine mild weather.

Both cattle and hogs eat with avidity the tops of the beet, and they are no doubt very nourishing. Yours, respectfully,

LOT PUGH.

CULTIVATION OF SPRING WHEAT.

Rev. Henry Colman, Commissioner for an Agricultural Survey of Massachusetts, has prepared in obedience to an order of the Senate, a very able Report on the cultivation of spring wheat. His remarks on the cultivation of wheat in Massachusetts show that several farmers have been very successful in raising this grain, usually obtaining large crops; and there is no doubt that with proper management, good wheat crops may be obtained in all parts of New England. On the selection and preparation of seed the Report is similar to what we have already published. Mr. Colman observes that in sowing broadcast, there should not be less than two bushels to the acre; and that many of the best cultivators recommend two and a half and some three bushels. The best crops in Massachusetts have been from

abundant sowing. Mr. Williams' great crop of 55 bushels to the acre was from three bushels sown. This is a larger quantity than is generally recommended; the largest crops that have come within our observation and of which we have seen notices, have generally been from a less quantity of seed, say from $1\frac{1}{2}$ to 2 bushels to the acre.

We make these remarks for consideration, not with a view of questioning the propriety of sowing a large quantity. As we observed in a previous number, farmers differ much as to the quantity of seed necessary to the acre; some sow twice as much as others. We select from this Report those articles that are most useful at this season; others on harvesting &c. will be published at another time.—*Yankee Farmer*.

SOIL FOR WHEAT. Rich, heavy loams, containing a considerable mixture of clay, are most suitable for wheat. Wheat has been cultivated with tolerable success on sandy siliceous lands; but on lands of this description it cannot be repeated oftener than once in five or six years, and the land ought to have been prepared and enriched by the cultivation of preceding manured crops. Lands strongly calcareous, or abounding in lime, are favorable for wheat, and indeed for all other crops. Wherever clover can be made to grow, there wheat may be cultivated to advantage with proper management.

SITUATION AND ASPECT. The aspect of lands, whether high and airy, or low and confined, is of considerable moment. Various theories have been suggested in regard to the origin of rust and mildew in wheat. The prevalent opinion with the French naturalists at the present day is, that they like smut consist of small parasitical plants, designed to be nourished upon the wheat plant. Whatever may be the fact, the appearance of these diseases bears as near a relation to certain states of the weather at the time the wheat is maturing its seed, as the courses of the tides to the changes of the moon. These diseases usually occur in the damp, hot, streaming, foggy weather of July. In low and confined situations, wheat is much oftener blighted than in situations which are elevated, and where the air circulates freely.

PLOUGHING AND PREPARATION OF THE LAND. If intended to raise wheat on land, for example, that is now in green sward, what should be done? Let the land be turned over with as much care, and the furrow slice be laid as flat as possible; and then thoroughly rolled with a heavy roller, until the field is entirely smooth. The inverted sward must not be disturbed; and in no case brought again to the surface. As to the depth of ploughing, if a subsoil plough, such as is described in my First Report, were used, the more deeply the subsoil could be loosened, without burying the upper stratum or mould, so much the better would be the crop. But as such an instrument is probably not yet in use among us, it is advisable to plough little deeper than the vegetable mould; and let that be thoroughly reduced by harrowing to a fine tilth; and the seed be sowed as soon after ploughing as can be conveniently done. Experience and observation establish as a general rule in farming, to sow as soon as may be after the land has been stirred.

MANURES FOR WHEAT. Land among us can seldom be found too rich for wheat; but the

enriching manures may be applied in too great quantities; or in an improper condition; or at an improper time. The feeding of plants is as imperfectly understood as the feeding of animals. As with animals so with plants, we know that they cannot live without food, and their vigor and fruitfulness depend much upon the quantity and quality of their food. But how it is taken up, and by what means elaborated and distributed, remains as yet, in a great degree, among the deep secrets of nature.

Manures are of two kinds; putrescent, animal, or such as are supposed to furnish directly the food of plants; or active, such as excite either the organs of the plant to receive, or the powers of the earth to prepare, this food to be received, or by themselves educe from the substances, with which they come in contact, the means of sustenance and growth for the vegetables to which they are applied. The former class consists of animal or vegetable substances in a state of putrescence or decay, the latter, of mineral substances capable by their action of rendering these vegetable and animal substances soluble and receivable.

I shall go little into any theory of vegetation or of the operation of manures. Many theories have been framed, but no one so demonstratively established, that none other can be substituted in its place, after farther inquiries shall have made us better acquainted with these mysterious but profoundly interesting operations of nature. Facts established by repeated experiments are mainly to be relied upon. The application of green and unfermented manures has always been prejudicial to wheat crops.—We know that the food of plants cannot be taken up unless it is reduced to extreme fineness or rendered soluble. This is applicable to all plants. If green and unfermented animal or putrescent manure be applied to wheat, it is always advisable to plough it in deeply, so as not to be reached by the roots of the plant until it has undergone some degree of decomposition. If, however, the manure be completely fermented and decomposed, it may then be safely applied, by being spread on the ground and harrowed in. It is desirable, however, in general, that the manure should be applied to the crop which precedes the wheat.

Lime. The presence of lime in some degree in the soil seems essential to the growth of wheat, and in a degree to the perfection of any plant. A very minute portion of lime is always found in the wheat plant. Some portion of lime likewise is found, it is believed, in all soils, excepting those composed entirely of decayed vegetable matter, like peat, or of pure siliceous sand. In the most productive soils for wheat, lime is found in the form of a carbonate; and the permanent value of a soil for grain crops may be in a degree determined by the presence of lime. In Europe the analysis of the best soils gives 25 to 30 per cent. of carbonate of lime. We shall soon be favored with the analysis of the soils of our own state from our learned geological surveyor.

Lime is not however the food of plants. It is not a mere stimulus to the plant. The most reasonable theory is, that it causes the dissolution of other substances in the earth; and prepares them to become the food of plants, or to yield that substance, which constitutes their food. As lime itself does not constitute the food of plants, this

explains why lime alone does not enrich a poor soil; and why, where it has been applied in excess and without the addition of other manures, it for a time impoverishes a soil.

A new theory of vegetation has been suggested by some distinguished European philosophers, which professes to approach nearer to a solution of this great mystery than has yet been reached. "A new substance has been discovered in all soils and manures, which is denominated *humine* or *geine*. It has been found likewise in all barks; in saw-dust, starch, and sugar. Humine is a substance not unlike carbon, for which it has hitherto been mistaken. It combines with the salts and forms the humic acid. There is a strong analogy between humine and other nutritive substances, such as gum or fecula. It forms a humate with an alkali, which is very soluble in water. All substances, which contain carbon are dissolved in the water of vegetation through the means of humine; and the dissolved mass is taken up by plants as food. Humine in combination with lime, ammonia or potash also becomes soluble in soils or dung.—Humic acid and carbonic acid gas, mixed with water, according to this discovery, constitute the chief food of plants. Every description of manure is only valuable in proportion as it contains these substances."

Such is the modern theory of vegetation; which is in itself plausible, but which will be farther tested by the lights of chemical science; from which examination the best results to agriculture are to be expected. Lime causes the evolution or extraction of this matter from various substances. Potash leads to similar results, and with more power than lime and bone manure; and night soil and all animal manures are supposed to furnish humine or *geine* in abundance. In respect to night soil or human excrement, a discovery has been recently made in France, which promises valuable results. The charcoal procured from burning wood, peat, or coal in close vessels has been mixed with it in the form of a fine powder, which operates to disinfect it of all offensive odor; and reduce it to a powder, which is portable and may be easily distributed. I have seen this process perfectly effected in the course of an hour. Manures in a decomposed and fermented state are said to supply this humic acid much more abundantly than in a crude or fresh state. In what precise condition they are applied must be matter of farther inquiry and experiment; and depend somewhat on the mode of their application. If designed to be spread broad-cast and ploughed in, experience seems decidedly in favor of applying them in a green and unfermented state; but it is as well decided that green and unfermented manure should never be brought in immediate contact with the roots of a growing plant.

The rules for the application of lime to the soil are of more immediate importance to the farmers than any further discussion of the theory of their operation.

Limes are found of various qualities from their different measures of combinations with siliceous, argillaceous, or magnesian earth.—Magnesia is found combined with some of our lime-stones in considerable quantities, and when in great amount is deemed prejudicial to vegetation. The quality of our various lime-stones is of great importance; and this will soon be furnished to us by

the highest authority. Lime may be applied to soils for two objects. The first to make a permanent change in the nature of the soil, as for example, to render a clayey soil less adhesive, and make it friable. In this a very abundant application would be required; and at the present prices of lime and of land would be an experiment not likely to be undertaken by many of our farmers.

The second object is to afford immediate aid to vegetation. In this case, if we had means of reducing the limestone to a fine powder without calcination, it might at once be advantageously applied, and with permanent benefit.—This has been done by an intelligent observer in West Stockbridge. He has obtained the ground stone in the form of a fine powder from the mills and shops for sawing and planing marble. The usual form in which lime is to be applied among us is in a calcined state, and with a view to its immediate effects. In order to apply it advantageously, it must be either air-slaked, or slaked with water. It may be slaked with water in the field, and distributed immediately while warm; or mixed with mould, in the proportion of one bushel of lime to five of mould, and spread in that form; in which latter form it is, perhaps, more likely to be equally diffused. It may be mixed with peat earth; but in this case it should be allowed a considerable time for fermentation, in order to render the vegetable matter of peat soluble, and to extract from it the proper food of plants. But it must not be mixed with animal or putrescent manure. Its effects in such case are to destroy the animal matter, and leave only the woody fibre.

The effects of lime, whether applied in a caustic or an effete state, either air slaked or water slaked, are not very different. The heat imparted to the soil by its application when warm would undoubtedly be to a degree beneficial. It should be applied on the surface of the soil, and merely harrowed in. It has a constant tendency to sink into the soil; and its operation is wanted in the vegetable mould, which is at the surface. In regard to the quantities to be applied there are great diversities of practice. In England, upon soils comparatively destitute of calcareous matter, from 100 to 600 bushels have been applied; the last quantity, however, with injury to the land for some time. The English consider that 300 bushels are ordinarily a proper dressing for an acre, and this is applied at once; very much larger quantities have been applied, but the advantages of such copious liming are not always a compensation for the expense.

The French, and the Germans, of late especially, have been highly successful in the application of lime. The practice of the former differs from that of English agriculture; but its advantages have been fully tested. They recommend the application of about twelve bushels per year, annually, for three years in succession, or forty bushels applied at a time once in five years. This is deemed ample. In this case is probably intended twelve bushels of unslaked lime, the bulk of which in the form of a hydrate, or slaked with water, is more than doubled. The plants on an acre will not take up a sixth of this quantity; but much of it is lost by gradually sinking into the soil, or goes to its permanent improvement. The French method rests upon the highest au-

thority of science and actual experiment; and may be commended to our farmers.

To be Continued.

[From the Rural Library.]

OF MANURING OF LAND.

SECT. 1.—The manuring of land is that operation by which is communicated to it the substance from which vegetables can draw a sufficient nourishment.

REMARK.—ZINCK gives us a very ample account of manuring, which we do not think necessary to insert here. We content ourselves with only observing, that he does not at all agree with the theoretical principles of chemistry, when he says, that "the oily particles added to the soil, excite a kind of fermentation with the oily particles previously in the earth, and with the moisture of the air, and that from thence are produced saline, oily, urinous, empyreumatic, inflammable, alkaline, &c. particles, which open the seeds of plants, and enable them to grow." Every one in the least conversant with chemistry, will readily perceive the futility of this reasoning.

SECT. 2.—It appears evidently, from former demonstrations, that vegetables stand in need of a certain homogeneous matter, to make them grow; but if neither the soil nor the salts, can be considered in themselves as the principles for the nourishment of plants, there can be no other analogous substances in the earth, from which vegetables draw their food, than the oily and the watery particles. From hence it follows, that the manuring of land consists chiefly in communicating to it a sufficient quantity of oily and watery particles.

REMARK.—Having before given an account of the nutritive matter furnished by the air, we here speak only of such matter in the soil, as vegetables derive their growth from.

SECT. 3.—The substances in which there is a mixture of oily and watery particles, constitute the best manure; but oil and water, in a fluid state, and in too great quantity, do more hurt than good to plants, and as they cannot penetrate the pores of vegetables, unless they are subtilized and resolved into vapours, the best matters for manure are those which afford attenuated oils, and a water resolved: now it is observed, that oil is attenuated, and water resolved into vapours, in those substances whose interior parts are subjected to motion, or liable to putrefaction; from whence we conclude, that matters of this kind, subject to such internal motions, constitute the best nourishments of vegetables.

SECT. 4.—It is well known, that there are five kinds of oily particles, namely, the *aerial*, the *mineral*, the *vegetable*, the *animal*, and a *mixture of these*. But as the only particles of the mineral kingdom have no affinity with those of vegetables, as appears from an analysis of them, and as we have already treated separately of the *aerial*, we shall here speak only of the *vegetable* and *animal* soils, and their mixtures.

SECT. 5.—These preliminaries, together with what we have said concerning the principles of vegetation, authorise us to draw the following conclusions:

First.—The nearer the matter intended for manure approaches to the nature of vegetable oil, the better it is; therefore, all other things being equal, vegetable manure should be preferred to that

which is mixed, and this last to animal manure alone.

Secondly.—The sooner the oily particles contained in the matter which is to serve for manure, are consumed, the less they can be profitable to the husbandman. But as it appears, from experience, that the vegetable manures are less durable than the mixed, and that the animal is less durable than the vegetable, the mixed should, on this account, be preferred.

Thirdly.—The more oily particles there are in matter, the richer and more durable it must necessarily be. It is for this reason that mixed manure should be preferred to others, and that the *dung of well-fed cattle* is infinitely better than that of lean ones, as observation and experience fully confirm.

Fourthly.—The more the matter which is to serve for manure, is disposed to putrefaction, the more easily it is subtilized and resolved into vapour. On this principle, the *animal manure* should be preferred to that which is composed of the animal and vegetable, and this last to the vegetable manure alone; and hence, also, dung mixed with urine is by far preferable to dung not mixed with urine, independent of the consideration that it acquires, by this mixture, a greater quantity of oily particles.

REMARKS.—The dead bodies of animals should by no means be buried in arable land, on account of very many evils which may arise therefrom. But they consult perfectly well the interest of their land, who have their cattle, especially sheep, upon it during the night, enclosed in what is commonly called folds, or small fields, in order that they may fertilize it by their dung, urine, and perspirable matter: and this method will be still more advantageously practised, if the land is first covered with a layer of short straw, or half-consumed dung, to prevent, in some measure, the evaporation of these manures; and if all these matters are afterwards ploughed in.

SECT. 6.—Dung is a vegetable substance, ground small, as is proved by remains of vegetables found in it, mixed with the saliva, the juices of the stomach, intestines, and the bilious matter of animals. Dung is therefore a mixed body, readily putrefying, containing an unctuous matter, very nearly approaching to the nature of vegetable oils. It communicates a lasting manure, which is obtained with little trouble, and very cheap. It is therefore beyond all doubt, that dung should be ranked amongst the best manures.

REMARK, first.—They seem to be mistaken who ascribe the richness given to land by dung, to a certain saline substance, more or less inherent in the dung, as some have said; for if we examine attentively the experiments which these persons have made, particularly those of Eskilson, with leys of different sorts of dung, and with acid spirits, alkaline salts, &c., it will appear, that, far from finding in them alkaline salts, sulphur, and nitre, in abundance, as they thought, there was discovered in them only a very little volatile alkaline salt, depending on the putrefaction more or less prolonged, as was demonstrated by themselves afterwards, with an oily principle united with the water by means of that salt; consequently, all the difference in dung depends solely on the quantity of its unctuous particles, and their solubility in water. The quantity of the unctuous

principle may be known by distillation, and it varies according to the quality of the animals. The more the dung is unctuous, the warmer it is. Hence the dung of fowls, which feed on scarcely any thing but seeds, pigeon-dung for instance, is hotter than that of horses, the dung of horses hotter than that of cows, and so of others.

REMARK, secondly.—Jethro Tull and Duhamel, writing on this principle, adopted very false principles, on the utility of dung; they could not but draw from thence wrong conclusions: but as their theory has been propagated in other writings and particularly those of some modern agriculturists, we will here give it a brief examination.

First.—They say, that "dung operates in the ground only by dividing, as well by its putrefaction as by its interior motion, the clods of the earth, whereby the interior pores of the earth are multiplied in proportion to the increase of its surface; and the more numerous the pores of the earth are, the fitter it is to communicate its nourishment to vegetables. But as the division of the clods of the earth can be still better effected mechanically, by means of the plough, than by dung," they think they may from thence conclude, "that the common method of enriching land with dung is useless."

Now it is easy to demonstrate that this reasoning is founded on three false hypotheses. (a) Duhamel supposed that vegetables draw their nourishment from the earth only, or from an earthy substance; and he lays down this hypothesis as an axiom. But we have evidently demonstrated, that it is contrary to the whole mechanism of vegetables, as well as to experience. (b) He supposes that dung does not contribute to vegetation materially, but instrumentally, in producing, by its putrefaction and interior motion, the division of the particles of the earth: but every one knows that this hypothesis is contrary to experience, not to say further, that one may even fertilize land with dung which is already rotted; and that besides, the motion of the putrefaction being purely internal, does not extend to the external bodies. Another and more modern author says, that dung ought to be considered as a ferment, which communicates its motion to the earth; but he should have considered, that matters in fermentation cannot communicate their internal motion to any other matters than such as are composed of particles of the same nature, that is to say, homogeneous. Now neither the mixture nor the disposition of the particles in mineral earth, renders it fit to receive the motion. (c) He lays down as a fact, that the dividing of the particles of the earth is equivalent to dunging; but both husbandmen and gardeners know the falsity of this hypothesis; besides, we have demonstrated in the foregoing chapter, that a soil too much divided and too light, is not the most profitable, on account of the great evaporation to which it is liable.

Secondly.—He says, that dung communicates a disagreeable taste to plants. He seems then not to have known that the food of plants is converted, during their growth, into an analogous substance; and that putrid salts difficultly penetrate the pores of vegetables. This last truth we confirm by our own experiments; for having watered a vine with putrid urine, we observed that neither the grapes nor the wine had contracted any bad taste. Kraftius's before-mentioned experiments

prove, also, the same truth. As to the rest, we must remark here, that it would follow from Duhamel's second hypothesis, that the juices of dung enter into vegetables, since these contract their taste, (which, however, is expressly denied in another place which we have just quoted,) and therefore that its use is by no means confined to the dividing of the particles of the earth.

Thirdly.—He alleges, that there are in dung qualities which are poisonous and dangerous to health, because it generally harbours venomous creatures. To refute this prejudice, we answer, that experience proves that poisonous vegetables, planted in dung, lose much of their noxious quality; or at least, that they never become more poisonous. Besides, it is not true, that dung is of a poisonous nature, and that there are always venomous creatures lurking in it.

Fourthly.—He likewise says, that dung is fit only to fill the ground with weeds, especially dandel. Mr. Hull also favors this opinion. We answer, that their growth is owing to the culture of the land more than to the dung that is laid on it. We grant, indeed, that the dung of horses may often produce this effect, because it is pretty common for horses to void whole the seeds or corn which they have swallowed without chewing them: but the husbandman is not ignorant that this inconvenience can be remedied by culture alone. Cow-dung, or the dung of other ruminating animals, makes a very good manure, in which there are none of those seeds.

Fifthly, and lastly.—He maintains that dung attracts worms and insects to seeds or plants. We partly agree with him in this; but as that multitude of worms, which are in the earth, depend in a great measure on the badness of the husbandry, we think this evil may be remedied by a good culture, or by other means.

SECT. 7.—The vegetables generally used for manure, are either in a sound or in a putrified state. Those of the former kind, as for example, the leaves of trees, boughs, twigs, bark of trees, bits of wood, saw-dust, &c. &c. contain, it is true, a substance analogous to that of vegetables; but as they do not rot easily, when spread upon the ground, and besides, contain very little of unctuous and watery parts, they, of course, cannot be of any lasting service: from whence it evidently appears, that dung should be preferred to them, as forming a better manure. They are, however, in a measure, serviceable, in that they absorb the acid of the land; though, if they are used in too great quantity, they communicate to the earth itself a part of the acidity with which they are fraught. Hence arises the opinion of some, who think that the mixture of these vegetables renders land of a sour or acrid nature.

SECT. 8.—We rank in the class of destroyed vegetables,

1st. The black mould and turf.

2dly. Soot, of which we pointed out the nature and properties in a former number.

3dly. Coal ashes, which many esteem on account of their property of attracting and retaining water, and of absorbing the acidity of the earth. However, they cannot of themselves contribute to the nourishment of plants, since no unctuous nor saline substance can be extracted from them.

SECT. 9. It is difficult to say, precisely, at what time land should be manured, as much depends

on the aspect, soil, and other causes, particularly the various seasons operating differently on different soils; therefore the principal points to be attended to in this respect, are:

- 1st. That the land be dry, and thereby fit to receive and retain the unctuous parts of the manure.
- 2dly. That the manure be spread without delay, and dispersed as equally as possible.
- 3dly. That it should also speedily be mixed with the earth, and buried at a proper depth, in order that the oily and watery particles may not fly off.

The Autumn seems therefore the fittest time for this work, when the earth is dry.

REMARK—It is particularly necessary, that the husbandman attend to the mixing the manures with the earth, that its operation may not be impeded or lost; for if laid on the ground, and no pains taken to incorporate it with the soil and preserve it from the exhalations of the winds and sun, it will lose much of its unctuous matter.

REMARK, secondly—That if ploughed under the furrow of the land, its benefits cannot be felt, at least for a considerable time, nor until the same is again ploughed, to mix it with the soil, as the fluids which would otherwise mix themselves with the upper layer, lays buried, and does not reach to the roots of plants, or rather the roots of plants do not reach the manure. It therefore behoves the husbandman to be careful in mixing the manure with the soil, in which he is to deposit his seed, and from which he expects to reap the benefit.

SECT. 10.—Too much dung may prove hurtful,

1st. In a warm and light soil, by giving it a still greater degree of heat, which, in a manner, burns up vegetables.

2dly. In a strong soil, by making the plants shoot up too fast, in which case they seldom ripen well: they produce larger leaves and stronger stems, but smaller seeds.

SECT. 11.—That the manure may be proportioned to the land, it is necessary to observe the following rules:

1st. The wetter, and consequently the colder, land is, the more dung it requires; for its cold nature should be corrected by the heat of the dung.

2dly. A drier soil requires less dung, lest the too great heat should burn the plants.

3dly. Clayey lands, and those which are of a still colder nature, require a dung which is not putrefied; human ordure, the dung of fowls, of sheep, of goats, of hogs, and of horses, are fitter for them than any other dung.

4thly. Mould being generally drier, does not require so great a quantity of dung.

5thly. Sandy land being naturally hot, and superficially covered with a layer, which is still more so, requires a putrefied dung; that which is not putrefied may also suit it, but less should be laid on at a time, and oftener.

REMARK—From what has now been said concerning the nature of lands and of dung, whether more or less hot or cold, it is easy to judge of the quality and quantity fit for each soil. Of all dungs the human is the hottest, and that of cows the coldest; the dung of fowls is hotter than the dung of sheep; this last is hotter than that of horses, and so of others. The dungs most common-

ly used, are those of cows, horses, sheep and hogs.

6thly. As no dung lasts above five or six years, even in the most favorable soils, and after that time produces no sensible effect, it is necessary to renew the dunging of the ground every sixth year at most; but if the soil be sandy, and has been dunged with vegetable substances, that renewal should be made very much sooner and much oftener.

REMARK—The nature of the vegetables that are mixed with the dung, as well of those which yet remain sound, as of those which are destroyed, gives us easily to know what judgment to form of them. This circumstance, in particular, should be carefully attended to, namely, that the mixture of heterogeneous substances, such as lime, ashes, &c. rather lessens the quality of the dung, than renders it better; for they consume the unctuous parts by their corrosive nature.

THE WHEAT CROP OF 1838.

[Extract of a letter to the Editor of the N. Y. Journal of Commerce, dated Ontario county, March 31st, 1838.]

It is now a good while since I addressed you respecting the crops, and as my former predictions proved nearly correct, I will now venture my opinion on the coming wheat crop. Wheat in almost all situations in this section, looks uncommonly well; better, I think than it ever was known at this season of the year, and better than ever I saw it. Indeed, it is more forward than it was at the end of May last year. Therefore, we may calculate on an early and abundant harvest. Early undoubtedly it will be; and I never knew a bad crop of wheat when early. I never knew the rusting dews come before the 12th July, and from all appearance we shall have harvest by that time. I saw you advised importation last fall, although you and others calculated, (about harvest,) an exportation of 10,000,000 dollars worth of breadstuffs. Now, I would advise those engaged in importing, to be cautious how they do it. If we are ever to raise enough and to spare, this will undoubtedly be the season; especially if the prospect is as good in all the wheat growing states as it is in ours. The weather is as fine as we could wish; ploughing proceeding rapidly; farmers, many of them buying additional teams, and seemingly the prospect of one good crop, after two failures, is encouraging them to go on a larger scale this season. Now mind, tell the importers to bring no more grain than they can dispose of before harvest. Depend upon it, if there is a great crop, of which I have little doubt, the farmers will thrash rapidly as soon as the wheat is out.

Your's, &c.

A FARMER.

[This is good news, coming as it does from a source which is not likely to over-rate the favorable appearance of the crops. We did think, last summer and fall, that the writer was a little bit of a croaker; but it turned out that he was pretty nearly right in his predictions. We trust it will prove so in the present instance.—Ed. J. of C.]

DAHLIA ROOTS.

The subscriber can furnish any quantity of DAHLIA ROOTS to the number of one thousand, recommended to

be a choice variety, all of the double kind, and from the well known nursery of Samuel Reeve, Esq'r, near Salem, New Jersey. I can also furnish from the same nursery very superior APPLE TREES for spring planting, if orders are given in soon for them. Peach Trees cannot be furnished from the said nursery before next fall.

J. S. EASTMAN.

TO THE PUBLIC.

Try the New Agricultural Establishment in Grant-street, next door to Dinsmore and Kyle.

Every article warranted to be first rate. The subscribers, grateful for past favors, take this early opportunity of returning their thanks to their customers and the public in general, and beg leave to inform them that they are now provided with a very extensive stock of newly manufactured AGRICULTURAL IMPLEMENTS, suitable to meet the call of Farmers, Gardeners, Merchants, Captains of vessels, and others, viz: 1000 Ploughs, assorted sizes, from \$4 to \$15 each, comprising of the old common Bar Shear, Winand's Self Sharpener; Woods & Freeborn's patent, all sizes, "Davis," "Sinclair & Moore's" improved Hill Side Ploughs, highly esteemed for turning the furrow down hill, with wrought or cast shears; Wheat Fans, of various sizes and patterns, from \$15 to \$50 each, warranted to separate the garlic from the wheat; Corn Shellers, from \$12 to \$20; Cutting Boxes, from \$7 to \$50 each; Corn and Tobacco Cultivators, large and small; Expanding do., Wheat Cradles, warranted to have fingers of the natural growth, and Grass Scythes, &c. &c.; Castings, of all descriptions and patterns, by the lb. or ton, to suit customers, allowing a liberal discount to merchants buying to sell again—fusa which will be furnished on the most pleasing terms. I do every article warranted to be of the best quality, in proportion to the cost price. All orders by mail or otherwise shall be duly attended to with the greatest despatch.

We would particularly call the attention of Country Merchants and others, wishing to purchase agricultural implements to sell again, to the fact, that we will furnish them with articles on better terms than they can be supplied at any other establishment in the city. Our assortment is complete and as varied as that of the most extensive concern in Baltimore.

We have also connected in its operations with the above branch of business a complete assortment of FIELD AND GARDEN SEEDS, kept by Thomas Denny—Also Garden and Farm Tools, of various sorts and of the choicest collection, which will enable our customers to have filled entire all orders in the Agricultural and Seed Departments. mh 26 JOHN T. DURING & Co.

SUPERB DOUBLE DAHLIAS.

ALSO, GARDEN AND FLOWER SEEDS.

The subscriber offers for sale at his establishment the best collection of Double DAHLIAS offered to the public, and will warrant every root true to name and colour, but they are too well known to need any comment in their favor, as most all amateurs in the vicinity have seen them in bloom to their great satisfaction, so those who wish to have roots that are genuine, apply at the right place, and lower than any other in the city as to quality.

Besides he offers a general and good collection of Garden and Flower SEEDS, fresh imported, that cannot be raised to perfection in this country; he has selected from Europe, and will dispose of them on reasonable terms, with a general collection of Greenhouse, Herbaceous and hardy plants, also Bulbous Roots. Catalogues can be had at his establishment, corner of Pine and Lexington street, Baltimore, by

JOHN FEAST,
Florist & Seedman.

ap 24 31*

CONTENTS OF THIS NUMBER.

Notice of the 'Rural Library,' a new publication—planting out Dahlias—work for May—clay on light and sandy soils—wheat crop in the west—treatment of wounds on horses—advice to sow spring wheat—Maryland State Geologist's views relative to the resources of Cecil county—agricultural life favorable to intellectual improvement—report to the Mass. Ag. So. on the culture of spring wheat—cultivation of roots for cattle—Mr. Colman's report to the Mass. Senate on the cultivation of spring wheat—essay on manuring land—the wheat crop of 1838—advertisements—prices.

BALTIMORE PRODUCE MARKET.

These Prices are carefully collected every Monday

	PER	FROM	TO
Beans, white field,	bushel.	1 25	
CATTLE, on the hoof,	100lbs	7 00	8 50
Corn, yellow	bushel	75	76
White	"	75	76
Cotton, Virginia	pound	10	12
North Carolina	"		
Upland	"	10	12 1/2
Louisiana — Alabama	"		
FRUITERS,	pound.	45	50
FLAXSEED,	bushel.	1 25	dull.
Flour & Meal — Best wh. wh't fam.	barrel.	9 50	10 50
Do. do. baker's	"		
Superior, at. from stores	"	7 50	
" wagon price,	"	7 00	
City Mills, super.	"	7 75	
" extra	"	8 00	
Susquehanna,	"	7 50	
Rye,	"	4 75	
Kiln-dried Meal, in hhd.	hhd.	19 00	
do. in bbl.	bbl.	4 00	
GRASS SEEDS, wholes. red Clover,	bushel.	8 00	8 50
Kentucky blue	"	2 50	3 00
Timothy (herds of the north)	"	3 00	3 50
Orchard,	"	2 50	3 00
Tall meadow Oat,	"		3 00
Herds, or red top,	"	1 00	1 25
HAY, in bulk,	ton.	12 00	15 00
Hemp, country, dew rotted,	pound.	6	7
" water rotted,	"	7	8
Hoes, on the hoof,	100lb.	7 00	7 50
Slaughtered,	"		
Hops — first sort,	pound.	9	
second,	"	7	
refuse,	"	5	
LIME,	bushel.	32	35
MUSTARD SEED, Domestic, —; blk.	"	3 50	4 00
OATS,	"	34	
Peas, red eye,	bushel.		
Black eye,	"	75	1 00
Lady,	"	1 00	
PLASTER PARIS, in the stone, cargo,	ton.	3 50	3 75
Ground,	barrel.	1 50	
PALMA CHRISTA BEAN,	bushel.		
RICE,	pound.	3	4
RYE,	bushel.	85	90
Susquehanna,	"	none	
Tobacco, crop, common,	100lbs	3 00	3 50
" brown and red,	"	4 00	6 00
" fine red,	"	8 00	10 00
" wrappery, suitable	"		
" for segars,	"	10 00	20 00
" yellow and red,	"	8 00	10 00
" good yellow,	"	8 00	12 00
" fine yellow,	"	12 00	16 00
Seconds, as in quality,	"		
ground leaf,	"		
Virginia,	"	4 50	9 00
Rappahannock,	"		
Kentucky,	"	4 00	8 00
WHEAT, white,	bushel.	1 65	1 70
Red, best	"	1 55	1 60
Maryland inferior	"	1 40	1 50
WHISKEY, 1st pf. in bbls.	gallon.	33	
" in hhd.	"	34	
" wagon price,	"		30
WAGON FREIGHTS, to Pittsburgh,	100lbs	1 50	
To Wheeling,	"	1 75	
Wool, Prime & Saxon Fleeces,	pound.	40 to 50	20 22
Full Merino,	"	35	40 18 20
Three fourths Merino,	"	30	35 18 20
One half do.	"	25	30 18 20
Common & one fourth Meri.	"	25	30 18 20
Pulled,	"	28	30 18 20

MORUS MULTICAULIS TREES.

The subscriber has from 25,000, to 30,000 Morus Multicaulis trees now growing at his residence, with roots of 1, 2, and 3 years old, which will be ready for sale this fall, and which he will sell on moderate terms.

EDWARD P. ROBERTS.

BALTIMORE PROVISION MARKET.

	PER.	FROM.	TO.
APPLES,	barrel.		
BACON, hams, new, Balt. cured	pound.	13	13 1/2
Shoulders,	"	11	
Middlings,	"	11	
Assorted, country,	"	10	
BUTTER, printed, in lbs. & half lbs.	"	20	25
Roll,	"		
CIDER,	barrel.		
CALVES, three to six weeks old	each.	5 00	6 00
Cows, new milch,	"	30 00	40 00
Dry,	"	9 00	12 00
CORN MEAL, for family use,	100lbs.	1 68	
CHOP RYE,	"	1 50	1 62
Eggs,	dozen.	12	
FISH, Shad, No. 1, Susquehanna,	barrel.	6 75	
No. 2,	"	6 50	
Herrings, salted, No. 1,	"	3 00	
Mackerel, No. 1, — No. 2	"	8 75	11 00
No. 3,	"	5 75	
Cod, salted,	cwt.	3 00	3 25
LARD,	pound.	9	10

BANK NOTE TABLE.

Corrected for the Farmer & Gardener, by Samuel Winchester, Lottery & Exchange Broker, No. 94, corner of Baltimore and North streets.

U. S. Bank,	par	VIRGINIA.
Branch at Baltimore,	do	Farmers Bank of Virgi. 2
Other Branches,	do	Bank of Virginia,
MARYLAND.		Branch at Fredericksburg, 1p
Banks in Baltimore,	do	Petersburg,
Hagerstown,	do	Norfolk,
Frederick,	do	Winchester,
Westminster,	do	Lynchburg,
Farmers' Bank of Mary'd, do		Danville,
Do. payable at Easton,	do	Bank of Valley, Winch. 3
Salisbury,	1 per ct. dis.	Branch at Romney, ..
Cumberland,	par	Do. Charlestown, ..
Millington,	do	Do. Leesburg,
DISTRICT.		Wheeling Banks,
Washington,	do	Ohio Banks, generally 6a7
Georgetown,	do	New Jersey Banks gen. 5
Alexandria,	do	New York City,
PENNSYLVANIA.		New York State,
Philadelphia,	par	Massachusetts,
Chambersburg,	do	Connecticut,
Gettysburg,	do	New Hampshire,
Pittsburg,	do	Maine,
York,	do	Rhode Island,
Other Pennsylvania Bks. 2		North Carolina,
Delaware [under \$5]	4	South Carolina,
Do. [over \$5]	1 1/2	Georgia,
Michigan Banks,	10	New Orleans,
Canadian do.	10	

FARMERS' REPOSITORY

OF AGRICULTURAL IMPLEMENTS AND EAST-MAN'S CYLINDRICAL STRAW CUTTERS IMPROVED.

THE Subscriber informs the public that he has secured by letters patent his late and very important improvements on his Cylindrical Straw Cutter, by which improvements they are made more durable and easier kept in order. All the machinery being secured to an iron frame the shrinkage, wear and decay of wood is avoided. The feeding part of his improved machine is upon an entire different principle from the former machine; far more durable, requiring neither skill or care to keep it in order. These machines are so constructed as to make the freight on them less than half what it cost to ship the former or wood machines, an important desideratum to purchasers living at a distance; and I now offer it to the public upon the credit of my establishment as the most perfect machine in existence for the same purpose. They are also adapted to cutting rags for paper making, and for cutting tobacco as manufactured by Tobaccoists, &c.

I also keep these machines on hand made as heretofore with my new feeding machinery attached to them; and also a general assortment of Agricultural Implements, as usual. Elliott's Horizontal Wheat Fan, and Fox & Bolland's Threshing Machines are both superior articles. My stock of Ploughs on hand are not equalled in this

city either for quality, quantity, or variety. I have a large assortment of Plough Castings at retail or by the ton, and having an Iron Foundry attached to my establishment can furnish any kind of Plough or Machine Castings on reasonable terms and at a short notice.

All repairs done with punctuality and neatness. On hand, a few Patent Lime Spreaders, Horse Powers, &c. &c. Also just received, a fresh supply of Landreth's superior Garden Seeds. In store, superior Timothy and Orchard Grass Seed and Seed Oats. All implements in the agricultural line will be furnished by the subscriber, as good and on as reasonable terms as can be had in this city, with a liberal deduction to wholesale purchasers. Likewise will receive orders for Fruit Trees from Mr. S. Reeves' Nursery, New Jersey.

JONATHAN S. EASTMAN,

Pratt street, Baltimore,

Feb 20

Between Charles & Hanover sts

ROBERT SINCLAIR, Jr. & CO.

Light street, near Pratt street Wharf,

OFFER FOR SALE, an extensive assortment of AGRICULTURAL and HORTICULTURAL IMPLEMENTS and SEEDS, comprising all that are required to stock the most extensive plantation. Particular attention is directed towards the manufacturing department, where the most competent workmen are employed and durable materials used.

The assortment of PLOUGHS is large and various, among which are the Double mould board, Sub-soil, Self-sharpening, Improved Davis, &c.

WHEAT FANS—Com. Dutch, Crank Shake, and Watkins' Patent.

CORN SHELLERS—For manual and horse power, warranted to shell 2 a 700 bushels of corn per day.

CORN AND COB CRUSHERS—For breaking the cob in suitable size for feeding stock.

CYLINDRICAL STRAW CUTTERS—of these there are several sizes. The late improvements made have rendered them the most perfect and effective Straw Cutters in the country.

THRASHING MACHINES and Horse Powers.

CULTIVATORS, for cultivating Corn, Tobacco, &c. DRILL and SOWING MACHINES, for drilling vegetable and grass seeds.

VEGETABLE CUTTERS, for slicing turnips, mangel wurtzel, pumpkins, &c.

HARROWS—Expanding, Com. Square and Diamond shape.

GREEN'S PATENT and common DUTCH STRAW CUTTERS.

Grain Cradles and Grass Sneathes, with warranted Scythes attached, Sickles, Scythe Stones, Grain and Hay Rakes, Hay and Manure Forks, with 2 a 6 prongs, Ox Yokes, Grubbing Hoes, Docking Irons, Ames' Spades and Shovels, cast steel Axes, Bramble Hooks, Hay Knives, Box, Pruning and Sheep Shears, Grass Hooks, Pruning Knives, Children's Spades, and various other Garden Tools.

Merchants wishing to purchase Ploughs and Castings to sell again, will find it to their interest to examine our stock, being the largest and most general assortment in this city, and for sale on liberal terms.

GARDEN & FIELD SEEDS—Just received from Europe, and from the Clairmont Seed Gardens near this city, an extensive assortment of Garden and European Field Seeds, warranted fresh and genuine, viz.

French Sugar Beet Seed, Mangle Wortzel, Ruta Baga, superior Beet and Radish Seeds, early and late Cabbage Seed, 30 kinds early and late Peas, bunch and pole Beans, Hybrid and other Turnip Seeds, Cauliflower and Broccoli; Scotch Kale, Parsnip, Carrot, Cucumber, Lettuce, Onion, Summer and winter Squash, Melons, Leek, Celery, Okra, Salsafy Cress, superior assortment of Flower Seeds, Herb Seeds, etc. etc.

FIELD SEEDS—English and Italian Ray Grass, Timothy, Burnet, St. Foin, Lucerne, white and red Clover, green and blue Grass, early Potatoes, Gama Grass Roots, Baden and Mercer Corn, Italian and Tuscan Wheat, Timothy, Herds and Orchard Grass, Millet, etc.

TREES AND PLANTS supplied at the shortest notice from the Clairmont Nurseries, near this city.

Wanted, prime lots Seed, Grain and Grass Seed.

A NEW-FOUNDLAND SLUT.

For sale, a large size New-Foundland Slut, of large size and very handsome. Her color is black. She is thoroughly broken to the gun, and in pup to a bull dog; price \$20. Enquire of the editor of the Farmer and Gardener, Baltimore, Md.